CLAIMS

1. A polymer comprising at least one structural unit (a1) containing a lactone represented by one of general formulas (1) through (4) shown below:

(wherein, in said formulas (1) to (4), R represents a hydrogen atom or a methyl group, and m is either 0 or 1).

- 2. A polymer according to claim 1, wherein said structural unit (a1) accounts for 30 to 60 mol% of a combined total of all structural units.
- 3. A polymer according to claim 1, further comprising a structural unit (a2), which contains an acid dissociable, dissolution inhibiting group, and is derived from a (meth)acrylate ester.
- 4. A polymer according to claim 3, wherein said structural unit (a2) is at least one unit selected from a group consisting of general formulas (I), (II), and (III) shown below:

$$\begin{array}{c|c}
R \\
C \\
H_2 \\
C
\end{array}$$

$$\begin{array}{c}
R^1 \\
\end{array}$$

$$\end{array}$$

$$(I)$$

(wherein, R represents a hydrogen atom or a methyl group, and R¹ represents a lower alkyl group)

$$\begin{array}{c}
R \\
C \\
H_2 \\
C \\
R^3
\end{array}$$

$$\begin{array}{c}
R^2 \\
\end{array}$$

$$\cdots (III)$$

(wherein, R represents a hydrogen atom or a methyl group, and R² and R³ each represent, independently, a lower alkyl group)

(wherein, R represents a hydrogen atom or a methyl group, and R⁴ represents a tertiary alkyl group).

- 5. A polymer according to claim 3, wherein said structural unit (a2) accounts for 20 to 60 mol% of a combined total of all structural units.
- 6. A polymer according to claim 1, further comprising a structural unit (a3), which contains a hydroxyl group and is derived from a (meth)acrylate ester.

7. A polymer according to claim 6, wherein said structural unit (a3) is one or two units selected from a group consisting of general formulas (IV) and (V) shown below:

(wherein, R represents a hydrogen atom or a methyl group)

(wherein, R represents a hydrogen atom or a methyl group).

- 8. A polymer according to claim 6, wherein said structural unit (a3) accounts for 10 to 50 mol% of a combined total of all structural units.
- 9. A polymer according to claim 1, wherein said polymer exhibits increased alkali solubility under action of acid, and is used within a positive resist composition.

10. A positive resist composition, comprising a resin component (A), an acid generator component (B) that generates acid on exposure, and an organic solvent (C), wherein

said component (A) comprises a polymer according to claim 9.

- 11. A positive resist composition according to claim 10, wherein said component (B) is an onium salt with a fluorinated alkylsulfonate ion as an anion.
- 12. A positive resist composition according to claim 10, wherein said component (C) is a mixed solvent of propylene glycol monomethyl ether acetate and a polar solvent.
- 13. A positive resist composition according to claim 12, wherein said polar solvent is ethyl lactate.
- 14. A positive resist composition according to claim 10, further comprising an amine(D).
- 15. A method for forming a resist pattern, comprising the steps of applying a positive resist composition according to any one of claim 10 through claim 14 to a substrate, conducting a prebake, performing selective exposure, conducting PEB (post exposure baking), and performing alkali developing to form a resist pattern.